Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

Diagnosis and treatment of chest pain and acute coronary syndrome (ACS): percentage of AMI patients who receive a statin agent within 24 hours of arrival and at discharge from hospital for whom treatment is appropriate.

Source(s)

Davis T, Bluhm J, Burke R, Iqbal Q, Kim K, Kokoszka M, Larson T, Puppala V, Setterlund L, Vuong K, Zwank M. Diagnosis and treatment of chest pain and acute coronary syndrome (ACS). Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Nov. 91 p. [159 references]

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of acute myocardial infarction (AMI) patients age 18 years and older who receive a statin agent within 24 hours of arrival and at discharge from hospital for whom treatment is appropriate.

Rationale

The priority aim addressed by this measure is to increase the timely initiation of treatment to reduce post-infarction mortality in patients with acute myocardial infarction (AMI).

Studies by the National Heart, Lung, and Blood Institute estimate that each year approximately 785,000 Americans will have a new coronary attack and approximately 470,000 will have a recurrent attack.

Patients diagnosed with acute coronary syndrome (ACS) should be treated with statins. Statins may reduce recurrent ischemic event after ACS, all-cause mortality and revascularization. Patients should be started on statins regardless of baseline low-density lipoprotein (LDL). Higher baseline LDL level at the time of ACS will draw more benefits from statin therapy than lower LDL levels. Most patients should be receiving a statin (or alternative lipid-lowering medication if intolerant to statins) at discharge from the hospital.

Evidence for Rationale

Cannon CP, Braunwald E, McCabe CH, Rader DJ, Rouleau JL, Belder R, Joyal SV, Hill KA, Pfeffer MA, Skene AM, Pravastatin or Atorvastatin Evaluation and Infection Therapy-Thrombolysis in Myocardial Infarction 2. Intensive versus moderate lipid lowering with statins after acute coronary syndromes. N Engl J Med. 2004 Apr 8;350(15):1495-504. PubMed

Davis T, Bluhm J, Burke R, Iqbal Q, Kim K, Kokoszka M, Larson T, Puppala V, Setterlund L, Vuong K, Zwank M. Diagnosis and treatment of chest pain and acute coronary syndrome (ACS). Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Nov. 91 p. [159 references]

Giraldez RR, Giugliano RP, Mohanavelu S, Murphy SA, McCabe CH, Cannon CP, Braunwald E. Baseline low-density lipoprotein cholesterol is an important predictor of the benefit of intensive lipid-lowering therapy: a PROVE IT-TIMI 22 (Pravastatin or Atorvastatin Evaluation and Infection Therapy-Thrombolysis In Myocardial Infarction 22) [TRUNC]. J Am Coll Cardiol. 2008 Sep 9;52(11):914-20. PubMed

Lloyd-Jones D, Adams RJ, Brown TM, Carnethon M, Dai S, De Simone G, Ferguson TB, Ford E, Furie K, Gillespie C, Go A, Greenlund K, Haase N, Hailpern S, Ho PM, Howard V, Kissela B, Kittner S, Lackland D, Lisabeth L, Marelli A, McDermott MM, Meigs J, Mozaffarian D, Mussolino M, Nichol G, Roger VL, Rosamond W, Sacco R, Sorlie P, Roger VL, Thom T, Wasserthiel-Smoller S, Wong ND, Wylie-Rosett J, American Heart Association Statistics Committee and Stroke Statistics, Writing Group Members. Heart disease and stroke statistics--2010 update: a report from the American Heart Association. Circulation. 2010 Feb 23;121(7):e46-e215. PubMed

Mills EJ, O'Regan C, Eyawo O, Wu P, Mills F, Berwanger O, Briel M. Intensive statin therapy compared with moderate dosing for prevention of cardiovascular events: a meta-analysis of >40,000 patients. Eur Heart J. 2011 Jun;32(11):1409-15. PubMed

Schwartz GG, Olsson AG, Ezekowitz MD, Ganz P, Oliver MF, Waters D, Zeiher A, Chaitman BR, Leslie S, Stern T, Myocardial Ischemia Reduction with Aggressive Cholesterol Lowering. Effects of atorvastatin on early recurrent ischemic events in acute coronary syndromes: the MIRACL study: a randomized controlled trial. JAMA. 2001 Apr 4;285(13):1711-8. PubMed

Primary Health Components

Acute myocardial infarction (AMI); statin treatment

Denominator Description

Number of patients with acute myocardial infarction (AMI) for whom statin treatment is appropriate (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Number of patients with acute myocardial infarction (AMI) receiving statin agent within 24 hours of arrival

and on discharge from hospital

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

Additional Information Supporting Need for the Measure

- With recent evidence-based changes in both interventional percutaneous coronary intervention (PCI) and pharmacological interventions in patients with acute coronary syndromes (ACS), the Global Registry of Acute Coronary Events (GRACE) found that in the United States, adhering to these new changes, rates of in-hospital death, cardiogenic shock, and new myocardial infarctions in patients with non-elevation myocardial infarction (non-STEMI) events have significantly decreased. Similarly, in the STEMI population there has been a significant decrease in rates of in-hospital death, cardiogenic shock, heart failure and pulmonary edema.
- The National Quality Improvement Initiative found that the guidelines and treatments recommended by the American College of Cardiology/American Heart Association (ACC/AHA) were only followed 74% of the time in 350 of the U.S. hospitals it studied. Not adhering to the ACC/AHA guidelines for recommended care of patients with ACS/NSTEMI has been associated with increased in-hospital mortality.

Evidence for Additional Information Supporting Need for the Measure

Davis T, Bluhm J, Burke R, Iqbal Q, Kim K, Kokoszka M, Larson T, Puppala V, Setterlund L, Vuong K, Zwank M. Diagnosis and treatment of chest pain and acute coronary syndrome (ACS). Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Nov. 91 p. [159 references]

Lloyd-Jones D, Adams RJ, Brown TM, Carnethon M, Dai S, De Simone G, Ferguson TB, Ford E, Furie K, Gillespie C, Go A, Greenlund K, Haase N, Hailpern S, Ho PM, Howard V, Kissela B, Kittner S, Lackland D, Lisabeth L, Marelli A, McDermott MM, Meigs J, Mozaffarian D, Mussolino M, Nichol G, Roger VL, Rosamond W, Sacco R, Sorlie P, Roger VL, Thom T, Wasserthiel-Smoller S, Wong ND, Wylie-Rosett J, American Heart Association Statistics Committee and Stroke Statistics, Writing Group Members. Heart disease and stroke statistics--2010 update: a report from the American Heart Association. Circulation. 2010 Feb 23;121(7):e46-e215. PubMed

Extent of Measure Testing

Unspecified

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Hospital Inpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 18 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Timeliness

Data Collection for the Measure

Case Finding Period

The time frame pertaining to the data collection is weekly or monthly.

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Clinical Condition

Institutionalization

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
Number of patients with acute myocardial infarction (AMI) for whom statin treatment is appropriate*

Population Definition: Patients 18 years and older.

*Refer to the National Guideline Clearinghouse (NGC) summary of the Institute for Clinical Systems Improvement (ICSI) guideline Diagnosis and Treatment of Chest Pain and Acute Coronary Syndrome (ACS) .

Exclusions
Unspecified

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
Number of patients with acute myocardial infarction (AMI) receiving statin agent within 24 hours of arrival and on discharge from hospital

Exclusions
Unspecified

Numerator Search Strategy

Institutionalization

Data Source

Electronic health/medical record

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Percentage of AMI patients who receive a statin agent within 24 hours of arrival and at discharge from hospital for whom this treatment is appropriate.

Measure Collection Name

Diagnosis and Treatment of Chest Pain and Acute Coronary Syndrome (ACS)

Submitter

Institute for Clinical Systems Improvement - Nonprofit Organization

Developer

Institute for Clinical Systems Improvement - Nonprofit Organization

Funding Source(s)

The Institute for Clinical Systems Improvement's (ICSI's) work is funded by the annual dues of the member medical groups and five sponsoring health plans in Minnesota and Wisconsin.

Composition of the Group that Developed the Measure

Work Group Members: Thomas Davis, MD (*Work Group Leader*) (Park Nicollet Health Services) (Cardiology); Qamar Iqbal, MD (HealthEast Care System) (Internal Medicine); V. Krishna Puppala, MD, MPH (HealthEast Care System) (Internal Medicine); Rynn Burke, MD (HealthPartners Medical Group and Regions Hospital) (Internal Medicine and Hospitalist); Kara Kim, MD (HealthPartners Medical Group and Regions Hospital) (Hospitalist); Khuong Vuong, MD (HealthPartners Medical Group and Regions Hospital) (Hospitalist); Michael Zwank, MD (HealthPartners Medical Group and Regions Hospital) (Emergency Medicine); Tonja Larson, PharmD, BCPS (Marshfield Clinic) (Pharmacy); Marek Kokoszka, MD (Park Nicollet Health Services) (Cardiology); Linda Setterlund, MA, CPHQ (Institute for Clinical Systems Improvement) (Clinical Systems Improvement Facilitator); Jim Bluhm, MPH (Institute for Clinical Systems Improvement) (Team Director)

Financial Disclosures/Other Potential Conflicts of Interest

The Institute for Clinical Systems Improvement (ICSI) has long had a policy of transparency in declaring potential conflicting and competing interests of all individuals who participate in the development, revision and approval of ICSI guidelines and protocols.

In 2010, the ICSI Conflict of Interest Review Committee was established by the Board of Directors to review all disclosures and make recommendations to the board when steps should be taken to mitigate potential conflicts of interest, including recommendations regarding removal of work group members. This committee has adopted the Institute of Medicine Conflict of Interest standards as outlined in the report Clinical Practice Guidelines We Can Trust (2011).

Where there are work group members with identified potential conflicts, these are disclosed and discussed at the initial work group meeting. These members are expected to recuse themselves from related discussions or authorship of related recommendations, as directed by the Conflict of Interest committee or requested by the work group.

The complete ICSI policy regarding Conflicts of Interest is available at the ICSI Web site .

Disclosure of Potential Conflicts of Interest

Rynn Burke, MD, Work Group Member
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National, Regional, Local Committee Affiliations: None
Guideline Related Activities: MN Department of Health Pandemic Planning
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

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Guideline Related Activities: None
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

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Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

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Research Grants: None
Financial/Non-Financial Conflicts of Interest: Consulting for services provided as hospitalist practice.

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Research Grants: None
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Guideline Related Activities: None
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2012 Nov

Measure Maintenance

Scientific documents are revised every 12 to 24 months as indicated by changes in clinical practice and literature.

Date of Next Anticipated Revision

The next scheduled revision will occur within 24 months.

Measure Status

This is the current release of the measure.

This measure updates a previous version: Institute for Clinical Systems Improvement (ICSI). Diagnosis and treatment of chest pain and acute coronary syndrome (ACS). Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2011 Nov. 85 p. [151 references]

The measure developer reaffirmed the currency of this measure in January 2016.

Measure Availability

Source available from the Institute for Clinical Systems Improvement (ICSI) Web site .

For more information, contact ICSI at 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; Phone: 952-814-7060; Fax: 952-858-9675; Web site: www.icsi.org ; E-mail: icsi.info@icsi.org.

NQMC Status

This NQMC summary was completed by ECRI Institute on September 8, 2011.

This NQMC summary was updated by ECRI Institute on October 8, 2012 and again on April 12, 2013.

The information was reaffirmed by the measure developer on January 13, 2016.

Copyright Statement

Production

Source(s)

Davis T, Bluhm J, Burke R, Iqbal Q, Kim K, Kokoszka M, Larson T, Puppala V, Setterlund L, Vuong K, Zwank M. Diagnosis and treatment of chest pain and acute coronary syndrome (ACS). Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Nov. 91 p. [159 references]

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